



## APPLE VARIETIES

## WESTERN NEW YORK AND THE HUDSON VALLEY

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Fruit Areas Studied

## Niagara County

The farms about which information was obtained in Niagara County were located in the vicinity of Newfane and Olcott. There was no selection of farms by the enumerators, but over the period of years, some of the farmers have discontinued giving the information.

Included in the Newfane - Olcott group were 14 farms in 1941 and 13 farms in 1942 that were located in other parts of Niagara County. These were selected by the County Agents as representative of the most successful farms.

T. E. LaMont was in charge of this study from 1926 to 1930, and Herrell DeGraff from 1934 to 1939. They have published the results in reports, bulletins and theses.

## Wayne County

The Wayne County growers were located in the vicinity of Sodus and Williamson. For the past two years, Lloyd Slater had charge of the field work. He has spent the past season summarizing this material and is writing a thesis, "An Economic Study of Fruit Farms in Wayne County, New York."

## Columbia and Dutchess Counties

For the 1930 crop, this study included 224 farms in the vicinity of Germantown and Red Hook, and 50 farms in Kinderhook. This work was in charge of Paul Williamson who published the results in several reports and bulletins and in a thesis entitled, "An Economic Study of Fruit Farming in the Hudson Valley, New York."

## Ulster County

These farms were located in the vicinity of Marlboro and New Paltz on the west side of the Hudson River. George Miller of the Farm Credit Administration started this study, and for three years the Farm Credit Administration financed the field work.

The above personnel and their assistants have collected and summarized much of the data published in this report. The author wishes also to express his appreciation to the fruit growers whose participation has made these fruit studies possible.

TABLE 1 -- IMPORTANT APPLE VARIETIES IN NEW YORK STATE

The Following Varieties Accounted for More than 1 Per Cent  
of the crop in one or more of the indicated areas.

Variety In order of bushels sold, considering all areas	Per cent of total bushels sold							
	Western New York					Hudson Valley		
	Niagara County			Wayne County		Ulster Co.	Columbia & Dutchess Cos.	
	5 yrs. 1922	9 yrs. 1932	2 yrs. 1941	2 yrs. 1937	3 yrs. 1940	5 yrs. 1935	3 yrs. 1930	
	-26	-40	-42	-39	-42	-39	-32	
	%	%	%	%	%	%	%	
McIntosh	1.3	16.5	23.9	21.9	21.4	44.4	21.4	
Baldwin	45.6	27.4	20.4	28.3	13.9	6.9	25.6	
R. I. Greening	27.0	25.7	25.4	21.4	24.5	4.2	8.5	
Wealthy	5.5	9.3	9.4	6.7	7.5	2.3	3.6	
Ben Davis	0.6	0.3	0.3	7.4	8.8	4.4	7.7	
Cortland	0.0	1.0	6.0	1.5	3.7	4.5	0.2	
Northern Spy	0.7	1.1	0.8	1.5	2.6	5.1	2.4	
Rome Beauty	0.2	0.1	0.4	0.8	5.2	4.9	1.7	
Red Delicious	0.1	1.6	2.2	0.1	0.1	7.3	1.6	
Oldenburg (Duchess)	4.3	3.2	2.4	0.3	0.6	0.5	3.0	
Jonathan	0.4	1.8	0.9	0.1	0.2	2.6	1.4	
N. W. Greening	0.4	0.6	0.9	1.7	2.4	0.4	0.7	
Tompkins King	3.5	2.4	1.0	0.2	0.5	0.1	2.3	
Stark	0.5	0.9	1.3	0.6	0.6	0.2	2.5	
Hubbardston	0.6	0.2	*	2.4	0.8	0.1	1.7	
Gano	*	*	0.2	0.2	1.3	2.4	0.7	
Stayman Winesap	*	0.0	0.0	0.5	0.6	2.8	0.3	
Wolf River	0.8	1.1	0.1	0.2	0.2	0.4	2.1	
Twenty Ounce	0.9	0.4	0.1	1.3	1.7	0.1	0.3	
Sutton Beauty	*	0.3	0.2	0.0	0.2	0.2	1.3	
Alexander	0.1	0.1	*	0.7	0.1	*	1.1	
Roxbury Russet	2.6	1.3	0.4	0.1	0.1	*	*	
Yellow Newtown	0.0	0.0	0.0	0.0	0.0	0.3	1.1	
Other varieties	4.9	4.7	3.7	2.1	3.0	5.9	8.8	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Total bushels (000 omitted)	1,196	1,744	343	504	2,094	1,546	1,348	
Average number of farms	187	113	89	77	183	56	211	

\*Less than 0.5 per cent

#### Shifts in the Production of Varieties in Niagara County

During the past twenty years, the Newfane-Olcott growers in Niagara County have increased the production of McIntosh apples from less than 3,000 to more than 50,000 bushels per year. During this period, the production of Cortland apples has increased from 0 to more than 10,000 bushels. The production of Red Delicious has also been increased. Formerly about as many Baldwins were produced as all the varieties combined. But on these farms, Baldwin production has declined from 100,000 to 50,000 bushels per year. Throughout this period, however, the production of R. I. Greening has been maintained. Other varieties with a decreased production relatively as great as Baldwin, included Oldenburg (Duchess), Tompkins King, Roxbury Russet, N. W. Greening, Ben Davis, Wolf River, and Twenty Ounce.

TABLE 11 -- NET RETURNS PER BUSHEL FOR IMPORTANT APPLE VARIETIES

Variety In order of price all areas considered	Western New York					Hudson Valley	
	Niagara County			Wayne County		Ulster Co.	Columbia & Dutchess Cos.
	5 yrs. 1922	9 yrs. 1932	2 yrs. 1941	2 yrs. 1937	3 yrs. 1940	5 yrs. 1935	3 yrs. 1930
	-26	-40	-42	-39	-42	-39	-32
Red Delicious	153	92	125	65	79	82	96
McIntosh	142	70	100	43	87	83	119
Yellow Newtown	--	--	--	--	--	108	78
Northern Spy	91	65	82	40	82	96	86
Rome Beauty	80	49	97	38	84	68	82
Cortland	--	59	89	34	72	57	83
Stayman Winesap	--	--	--	29	73	60	66
Baldwin	74	57	108	25	62	56	68
Tompkins King	86	56	77	33	68	59	65
Stark	86	56	86	28	56	62	70
Jonathan	107	54	77	25	61	50	66
E. I. Greening	76	52	80	31	66	61	63
Twenty Ounce	78	50	70	32	59	60	71
Wealthy	72	52	78	30	57	54	58
Sutton Beauty	--	45	64	--	57	64	62
N. W. Greening	104	45	55	25	62	55	65
Hubbardston	76	32	89	29	52	50	50
Gano	--	36	77	19	50	37	53
Roxbury Russet	76	44	48	23	52	53	38
Wolf River	66	39	49	18	42	56	51
Alexander	73	44	28	21	46	55	48
Ben Davis	57	33	71	18	52	32	47
Duchess	53	38	39	23	39	42	49
All varieties	75	56	91	30	69	71	74

Number of farms and bushels of apples for each study given in preceding table.

The net return per bushel is the price the grower received, less expenses he had for package, storage and commission. Charge for transportation was also deducted, if hired by the grower, but not when delivered to market in grower's own truck. No deductions were made for the costs of grading and packing. The price is an average for all apples sold except those sold to the cider mills.

When the prices for all the areas were averaged, Red Delicious was the only variety that sold higher than McIntosh. Relatively, McIntosh prices are not as high as they were when fewer McIntosh were produced. Twenty years ago, in Niagara County, one bushel of McIntosh was worth two bushels of Greening. This difference in price has narrowed and recently one bushel of McIntosh has been worth only one and one-fifth bushels of Greening. On the average, Cortland apples have returned the grower from 10 to 20 cents less per bushel than McIntosh. For the 1942 crop, the Newfane growers in Niagara County received more per bushel for Baldwin than for McIntosh. More of the Baldwins were sold in the winter and spring of 1943 when apple prices were the highest. With the exception of Baldwin, the varieties that have declined in production have also declined in their relative price position.

## TABLE 111 -- VARIETIES CLASSIFIED AS TO PRICE

The following varieties were classified according to the prices received in those areas and for those years that are given in the preceding table. Varieties were not listed unless the number of bushels for at least one of the averages exceeded 100. Of the 97 varieties here listed, only 19 returned the growers an average of more than 75¢ per bushel.

Net returns per bushel		
Over 75¢	75¢ to 50¢	Less 50¢
Crabapples (all varieties)	Arabka	Alexander
Delicious, red	Baldwin	Banana, Winter Banana
Early McIntosh	Barringer	Ben Davis
Golden Delicious	(Pride of the Hudson)	Bietigheimer
Kendall	Bliss Pippin	Black Gilliflower
Lady	Boskoop	Boiken
McIntosh	Champlain	Bottle Greening
Modina	Chenago (Strawberry)	Cooper Market
Melba	Cortland	Cranberry Pippin
Milton	Coxsackie	English Codlin
Northern Spy	Early Harvest	Esopus Spitzenburg
Red Astrachan	Fall Pippin	Fallawater
Red Rome	Fameuse (Snow)	Gano
Red Spy	Grimes (Golden)	Gideon
Red Winesap	Hubbardston	Gilpin
Starking	Jonathan	Golden Russet
Sweet Bough	Lady Sweet	Gravenstein
Williams	Lehigh	Haas
Yellow Newtown	Mann	King David
	Northwestern Greening	Lawver
	Ontario	Maiden Blush
	Opalescent	Oldenburg (Duchess of)
	Paragon	Oliver (Senator)
	Perfection	Ortloy (White Pippin)
	Pound Sweet	Peck
	Primate	Pewaukoo
	Pumpkin Sweet	Ralls
	Red June	Rambo
	Rhode Island Greening	Red Canada
	Ribston Pippin	Roxbury (Russet)
	Rome Beauty	Vandevere
	Salome	Westfield (Seek-no-further)
	Stark	Willow
	Stayman Winesap	Widosap
	Sutton Beauty	Wolf River
	Swear	Yellow Bellflower
	Tolman Sweet	
	Tompkins King	
	Transparent	
	Twenty Ounce	
	Wagener	
	Wealthy	
	York Imperial	

TABLE IV -- COMPARISON OF PRICES BY AREAS

Season of	Not returns per bushel			Increase or decrease over	
				Niagara County prices	
	Niagara County	Ulster County	Wayno County	Ulster County	Wayno County
			<u>McIntosh</u>		
1933-34	81	100		+19	
1934-35	99	114		+45	
1935-36	53	79		+26	
1936-37	101	126		+25	
1937-38	37	69	48	+32	+11
1938-39	79	97		+18	
1939-40	49	52	39	+ 3	-10
1940-41	66		76		+10
1941-42	89		83		- 6
1942-43	110		95		-15
Average of differences				+24	- 2
			<u>Baldwin</u>		
1933-34	67	76		+ 9	
1934-35	88	103		+15	
1935-36	53	52		- 1	
1936-37	105	85		-20	
1937-38	24	41	25	+17	+ 1
1938-39	64	54		-10	
1939-40	39	49	25	+10	-14
1940-41	45		42		- 3
1941-42	78		61		-17
1942-43	127		73		-54
Average of differences				+ 3	-17
			<u>R. I. Greening</u>		
1933-34	70	77		+ 7	
1934-35	70	100		+30	
1935-36	45	65		+20	
1936-37	79	82		+ 3	
1937-38	29	54	34	+25	+ 5
1938-39	48	57		+ 9	
1939-40	38	43	28	+ 5	-10
1940-41	48		50		+ 2
1941-42	73		66		- 7
1942-43	90		79		-11
Average of differences				+14	- 4
			<u>All varieties</u>		
1933-34	68	89		+21	
1934-35	76	116		+40	
1935-36	49	67		+18	
1936-37	88	107		+19	
1937-38	30	57	31	+27	+ 1
1938-39	59	80		+21	
1939-40	42	53	29	+11	-13
1940-41	50		54		+ 4
1941-42	76		67		- 9
1942-43	105		80		-25
Average of differences				+22	- 8

TABLE V -- APPLE YIELDS BY YEARS  
NIAGARA COUNTY, NEW YORK

Year	Bushels per acre, trees over 14 years old							
	Baldwin		R.I. Greening		McIntosh		Wealthy	
	Soils		Soils		Soils		Soils	
	Better drained	Poorer drained	Better drained	Poorer drained	Better drained	Poorer drained	Better drained	Poorer drained
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	bu.
1916	193	144	125	122				
1917	22	20	48	28				
1918	216	161	204	148				
1919	164	144	92	24			128	20
1920	263	177	337	257			160	100
1921	154	106	22	15			115	68
1922	177	109	283	244			97	96
1923	196	123	128	87			76	51
1924	131	50	173	136			108	76
1925	307	241	168	139			168	102
1926	211	143	314	213			144	85
1927	84	57	43	14			120	46
1928	112	55	179	112			160	66
1929	181	90	146	50			157	77
1930	189	69	309	149			293	114
1931	227	131	158	80			196	85
1932	127	49	306	176	280	111	217	106
1933	225	102	171	49	219	63	245	94
1934	104	27	306	131	224	94	177	111
1935	155	62	177	56	264	70	181	77
1936	138	57	350	130	352	156	164	107
1937	227	63	187	51	234	109	193	98
1938	189	76	245	121	239	122	179	112
1939	252	139	216	93	308	175	200	110
1940	118	39	189	72	186	78	127	66
1941	94	34	225	64	216	103	185	63
1942	201	41	244	63	240	45	173	25
Averages								
Before								
1930	172	109	162	114			130	72
After								
1929	173	68	237	95	251	102	195	90

On farms located on the better drained soils, the productiveness of the orchards has been maintained and increased. But on farms located on poorly drained soils, yields have declined and in some recent years, production per acre has been less than a third of that obtained on well drained soils. During the deflation of the thirties, a period of relatively low apple prices and high costs, it has not been financially possible for many growers to spray and fertilize sufficiently to maintain production.

TABLE VI -- APPLE YIELDS BY VARIETIES BY AREAS

Variety In order of yield, considering all areas	Bushels of packable fruit per acre				
	Western New York			Hudson Valley	
	Niagara County		Wayne County	Ulster County	Columbia & Dutchess Cos.
	9 yrs. - 1934-1942				
	Soils				
Well drained	Poorly drained	5 yrs. 1937, 1939 1940-1942	5 yrs. 1935-1939	6 yrs. 1928-1933	
	bu.	bu.	bu.	bu.	bu.
<u>Trees 9 to 14 years old</u>					
McIntosh	103	67	163	220	120
Cortland	107	57	159	154	--
Wealthy	--	--	104	144	115
Rome Beauty	--	--	--	121	120
R. I. Greening	123	33	137	108	90
<u>Trees 15 to 40 years old</u>					
McIntosh	257	107	306	429	179
Rome Beauty	--	--	247	249	162
Ben Davis	--	--	231	266	121
R. I. Greening	196	95	244	209	128
Cortland	--	58	228	214	--
Baldwin	152	82	202	207	136
Jonathan	141	--	--	256	90
Wealthy	176	85	177	172	88
Delicious	113	51	--	217	108
<u>Trees over 40 years old</u>					
R. I. Greening	264	81	205	235	177
Baldwin	169	45	178	223	138

In each of the areas, the production of packable fruit from trees 15 to 40 years old was higher for McIntosh than for any other variety. The largest advantage for McIntosh was found in Ulster County where the average yield of 429 bushels per acre was 163 bushels higher than the yield of Ben Davis which ranked second.

TABLE VII -- APPLE SALES PER ACRE BY VARIETIES  
For Orchards More than 14 Years Old

Variety	Western New York			Hudson Valley	
	Niagara County		Wayne County	Ulster County	Columbia & Dutchess Cos.
	9 yrs. - 1934-1942				
	Soils		5 yrs.	5 yrs.	3 yrs.
	Well drained	Poorly drained	1937, 1939, 1940-2	1935-1939	1930-1932
	\$	\$	\$	\$	\$
McIntosh	193	77	203	358	215
Northern Spy	133	34	127	209	90
R. I. Greening	147	50	122	134	92
Delicious	109	44	--	185	106
Baldwin	115	34	84	116	82
Wealthy	101	47	82	91	47
Jonathan	81	--	--	129	80
Twenty Ounce	--	--	91	--	--
Hubbardston	--	--	66	--	58
Ben Davis	--	--	91	84	54
Rome Beauty	--	--	--	158	154
Stayman Winesap	--	--	--	125	--
Cortland	--	--	--	102	--

McIntosh ranked first in sales of fruit per acre in each of the areas studied. Northern Spy ranked second in Ulster and Wayne Counties, third on well drained soil in Niagara County, and fifth in Columbia and Dutchess Counties and on the poorly drained soils of Niagara County. Wealthy ranked lowest or next to lowest except on the poorly drained soils of Niagara County. The only varieties considered in this comparison which returned less per acre than Wealthy were Ben Davis in Ulster County, Hubbardston in Wayne County, Jonathan on the well drained soils in Niagara County and Baldwin, Northern Spy and Delicious on the poorly drained soils in Niagara County.

The returns per acre for McIntosh exceeded the next highest variety by \$149 in Ulster County, \$76 in Wayne County, \$61 in Columbia and Dutchess Counties, \$46 on the well drained soils of Niagara County and \$27 on the poorly drained soils of Niagara County.

